Kentucky Environmental Quality Commission Public Meeting
Martin County Coal Slurry Spill: Three Years Later

Meeting Minutes
June 16, 2003
Stumbo Conference Center
Jenny Wiley State Resort Park
Prestonsburg, Kentucky

EQC Commissioners Present
Aloma Dew, Chair
Betsy Bennett, Vice-Chair
Jean Dorton
Gary Revlett
Lindell Ormsbee
Patty Wallace

Speakers/Representatives Present
Tom Welborn, US Environmental Protection Agency
Bob Logan, Ky. Dept. for Environmental Protection
Allen Luttrell, Ky. Dept. for Surface Mining

EQC Commissioners not attending
Gordon Garner

EQC Staff Present
Leslie Cole, Executive Director
Erik Siegel, Assistant Director
Lola Lyle, Principle Assistant
Frances Kirchhoff, Executive Secretary

Opening Remarks
Commissioner Jean Dorton called the meeting to order at 6:00 p.m. Ms. Dorton noted that for those who were not familiar with the Commission, EQC is a 7-member citizen board created under state law to advise the Governor and other state officials on environmental matters. The commission also publishes the State of Kentucky's Environment – a biennial report to monitor environmental trends and conditions. In addition, EQC promotes public awareness and action for a clean and sustainable environment.

Ms. Dorton stated that EQC commissioners essentially volunteer their time to serve on the commission and come from all walks of life from across the state. Ms. Dorton introduced the commissioners present:

Ms. Dorton noted that an important part of the commission's mission is to facilitate discussion and resolution on environmental matters of public concern. This meeting will focus on a topic that has been an ongoing public concern in Kentucky since that fateful day almost 3 years ago when in the early morning hours of Oct. 11, 2000, an inrush of water and slurry poured from the Martin County Coal Corp.'s Big Branch impoundment into the adjacent underground mine. An estimated 306 million gallons of slurry flowed from the impoundment into the mine. The slurry burst through the mine portals and flowed into tributaries of the Big Sandy River.

While no one was injured in the incident, significant environmental damage resulted. The spill impaired water quality along 100 miles of the Wolf and Rockcastle creeks and the Coldwater, Levisa and Tug forks of the Big Sandy River. The company has agreed to clean up waterways

that were contaminated. The U.S. Environmental Protection Agency is overseeing the cleanup. The work must be finished by October 2007.

EQC requested state and federal officials provide a status report on the clean up as well as changes that have occurred at the state and federal level to prevent future disasters like this one from occurring.

Ms. Dorton said that three groups declined our invitation to discuss restoration of the spill site and efforts underway to ensure coal waste impoundments are safe. The federal Office of Surface Mining (OSM) declined because OSM and Mine Safety and Health Administration (known as MSHA) are working jointly on a report to Congress that is due on August 15, 2003, responding to the National Research Council's recommendations regarding coal waste impoundments. Until that report is released, OSM said they were not able to discuss several issues relating to coal waste impoundments. And MSHA declined to participate in tonight's meeting citing they did not have any experts on the forum's subject matter available to participate. Martin County Coal also declined to participate tonight citing the matter is under litigation and they are unable to discuss it.

Ms. Dorton said EQC was grateful however, that the U.S. Environmental Protection Agency, Region 4, the lead agency in the restoration effort, is here tonight as is the Kentucky Department of Environmental Protection and the Kentucky Department of Surface Mining.

Robert Logan, Kentucky Department for Environmental Protection
Ms. Dorton introduced the first speaker, Robert Logan, Commissioner of the Department for Environmental Protection. Mr. Logan provided an overview of the site, cleanup efforts to-date, as well as ongoing issues.

Mr. Logan stated that the number of gallons spilled on October 11, 2000 varies, but the Division of Water placed the spill to be 308 million gallons with about 100 miles of streams affected. When the spill occurred the first steps were to set up a command center and begin setting the strategy. The first challenge was the problem of drinking water since all water supplies were affected. The waterways affected included the Coldwater and Wolf creeks and the Big Sandy River. Commissioner Logan that the next challenge was to assess the loss of habitat. Before restoration could began, a baseline point of reference of the water quality before the spill had to be established.

The financial impact of the spill and fines were assessed by the state at $3.25 million. One and a half million dollars was assessed for environmental damage, $1 million for damage assessment and $500,000 for cost recovery. From Mr. Logan's prospective, even though it was a significant event, DEP did have complete cooperation, skill, time, experience, and expertise to figure what caused the event. Mr. Logan stated that restoration will continue to improve and sites will continue to be monitored from all parties involved.

Questions and Answers

Q. What was in the mix that came down?
A. We assessed that through chemical testing. We took samples, others took samples and they were reviewed by teams as well as by individuals. The Agency for Toxic Substances and Disease Registry (ATSDR) assessed the materials for toxics.

Q. Did ATSDR you find any metals that were toxic?

A. There were some metals identified that that were toxic. Toxicity of chemicals depends on the organism that will be affected and the pH system; how it is organically bound.
Toxicity is defined first by the organism that is going to be affected by it. It also depends on the alkalinity and the pH in the system.

Q. Did they find any chemicals that were of health concerns?
A. Yes, there were some that showed up that are thought to be of health risk. The question is are they associated with people's pathways to consumption. Pathways would be through food substance, drinking water, ventilation, or contact through the skin. Preliminary test results showed that there were no health concerns. The effect on the aquatic life and stabilization may be different because they emerge themselves in the streams and over time we may see some.

Q. Concerning stream recovery is there concern about the impact on fish eggs and young fish; what impact there may be on reproduction and the long term effects?
A. It depends on the species of fish. We have seen immature fish that have hatched in the stream system. We believe the stream is recovering. Now, is that for all species, no, but we do see some improvement.

Q. What metals were found in the sludge?
A. In the geology of Kentucky, metals occur naturally. The question is, are these metals harmful. The main metal to be concerned with are the heavy metals such as lead, cadmium, chromium, mercury, zinc, arsenic, and copper and the levels of toxicity.

Q. Did some exceed normal or safe levels?
A. Yes, but not enough to cause health problems.

An audience member mentioned he lives on Cold Water, and they haven't made any progress. As far as what was in the material, I spent 33 years in the coal industry and am familiar with the makeup of coal slurry. There is no doubt that there are some streams left with work to be done and slurry is still impairing land and water in our community.

Tom Welborn, U. S. Environmental Protection Agency, Region IV, Atlanta, Georgia
Ms. Dorton introduce the next speaker, Mr. Tom Welborn, Branch Chief of Wetlands, Coastal and Watershed Branch of the U. S. Environmental Protection Agency (EPA).
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Mr. Welborn estimated the spill to have been 300 million gallons. The slurry pond was 72 acres of surface area and the dam was 250 feet tall. The spill occurred when the shallow cover over an abandoned underground mine workings collapsed. Slurry filled the mines and exited from two portals in opposing watersheds—Coldwater Fork of Rockcastle Creek and Wolf Creek effecting about 70 miles of streams. The U.S. EPA responded immediately and established a unified command on-site to coordinate response efforts.

The EPA signed an Administrative Order on Consent (AOC) on March 7, 2001. This AOC addressed the following.

- The process for cleanup and restoration.
- Established a stream assessment and cleanup survey team with representatives from state and federal agencies, EPA experts, and Martin County Coal Company to assess impacts, cleanup and restoration.
- Identified and located waste material.
- No permanent loss of waters.

- Removal of slurry material and equipment.
- Restoration of stream bank and flood plain areas.
- Restoration of aquatic and hydrologic function.
- Replanting of riparian area and mitigation.
- Established a community outreach center in Inez until the end of June 2001.
- Established a document repository in Inez City Hall in Martin County.
- Provided a computer for the Inez City Hall to access various documents and photographs provided to the repository on compact discs or other transferable media.
- Established opportunities for community conference calls since June 2001.
- On July 6, 2001, primary oversight was transferred from the EPA Region 4 Waste Management Division to the Water Management Division.
- Focus of the efforts shifts from cleanup to restoration

The Commonwealth of Kentucky entered into an Agreed Order (AO) with Martin County Coal Company on July 31, 2002 specifying the following.

- Kentucky's AO incorporates the requirements of EPA's Order but is independently enforceable by the Kentucky Division of Water (DOW).
- Oversight of environmental impact assessment and streams restoration transitioned from EPA to the Kentucky Natural Resources and Environmental Protection Cabinet.
- Kentucky DOW committed to restoring impacted streams and floodplains (Wolf Creek and Coldwater Fork to pre-spill conditions.
- Restoration will use natural stream design principles.
- Biological recovery endpoints for impacted streams to be established.

The human health effects of the impoundment failure were impacts on drinking water supplies and health effects as a result of the spill. The Agency for Toxic Substances and Disease Registry (ATSDR) provided two public health consultations as follows.

1. Public Health Consultation #1 (2001) evaluated impacts to drinking water supplies
    - Report was based on data collected from the City of Inez municipal drinking water system
    - ATSDR found that the concentration of chemicals, heavy metals, and minerals in the drinking water " . . .do not represent a health threat to the general population" nor is there likely to be ". . . a cumulative effect on healthy humans."
    - Additionally, "The concentrations in the water supply samples provided by the citizens of Inez approximate levels in streams in the area unaffected by the coal slurry incident."
2. Public Health Consultation #2 (2003) evaluated human health effects as a result of the spill:
    - Analysis based on all available data collected on surface water, drinking water, ground water and sediment/slurry.
    - ATSDR categorized the site as a "No apparent health hazard."
    - Public comment closed on June 9, 2003

Since June 2001, EPA has received the following reports from Martin County Coal Company.

- Monthly progress reports regarding site activities and efforts to compile plans pursuant to impact assessment and restoration.
- Revised work plan.
- Screening level ecological risk assessment.
- Revised impact assessment plan, including sediment and habitat characterization methodology, sediment sampling and analysis plan, and sediment and habitat characterization methodology for tributaries of impacted wadeable streams.

Mr. Welborn next briefly shared a listing of several damage assessment reports including:

- Summary of sediment sampling and particle size distribution report for the Ohio river
- Sediment sampling in the Ohio River has been discontinued
- Summary of sediment sampling and analysis in the Tug Fork and wadeable tributaries (currently under review)
- Summary of sediment sampling and habitat characterization in the Tug Fork and wadeable tributaries (currently under review)

Mr. Welborne next discussed ongoing actions at the site. These include:

- Impact assessment reports continue to be developed.
- Sediment, habitat and water quality sampling in stream segments affected by the spill.
- Repairs due to erosion damage along stream banks and slopes continue as needed.
- Streams and floodplain restoration plan for Upper Middle Coldwater Fork is expected to be submitted to DOW and EPA by the end of July 2003.
- Restoration plan will be based on Rosgen-Type natural stream design principles.

He also shared some of the lessons that were learned from the Martin County slurry spill including the following.

- EPA's regulatory authorities and limitations –Clean Water Act (CWA) 402 and 404; Resource Conservation and Recovery Act (RCRA); Comprehensive Environmental Response, Compensation, and Liability Act –(Superfund) (CERCLA)
- Community Involvement –CERCLA; CWA
- Need for increased regulatory review of existing and proposed slurry impoundments.

Questions and Answers

Q. Initially the spill was addressed under CERCLA (superfund) and EPA came in involved the community until March 13 it was moved under the Clean Water Act, after which there was no community involvement.
A. Mr. Wellborn said he welcomed suggestions on how to better involve the citizens.

Q. In the removal of the slurry do you mean it was moved to another part of the bank? Is it permanent? How is reclamation being done? By cover up or removal?
A. In some cases the slurry was removed in other cases it was buried under soil.

Q. It was said that there were no toxic substances that could cause health problems for adults. What about children? Has a study been done to see what the effects of the chemicals have on children?
A. ADSTR concluded that the chemicals are not cause for a health hazard.

Q. Were independent labs involved in the testing?
A. The state did testing as well as Martin County Coal.

Q. At a meeting of the Martin County Water Board, they commented that levels of some contaminants are getting close to being out of compliance. Could this be caused by the slurry spill and been building from there?
A. Bob Logan answered that what we see in drinking water depends on what uses are in that system such as industrial discharges and oil and gas exploration. When we looked at the organic constituent of the actual slurry, in the test that we have done, we didn't see these types of organics

typically found in the drinking water testing that is being done. We hope that most of the problems with the drinking water system in Martin County are resolved. We cannot say whether or not the slurry spill was the cause of the problem.

Q. One of the chemicals found was lead. Where in the process is that added? And arsenic? I don't think it is added.
A. Arsenic is naturally occurring in the coal.

Q. How many slurry impoundments are in Eastern Kentucky?
A. About 120, according to Allen Luttrell, Dept. of Surface Mining.

Allen Luttrell, Ky. Department of Surface Mining Reclamation and Enforcement (DSMRE)
Ms. Jean Dorton introduced the final speaker, Mr. Allen Luttrell, Deputy Commissioner for the Department of Surface Mining Reclamation and Enforcement (DSMRE). Mr. Luttrell spoke about the status of coal waste impoundments in Kentucky and efforts underway to ensure their safety.

Mr. Luttrell stated as a result of the October 11, 2000 coal slurry spill, multiple program initiatives were implemented to prevent this type of event from occurring again. A review by the Office of Surface Miming (OSM) and DSMRE was done of all existing impoundments. The initial joint review of the existing 118 impoundments has been completed. OSM has taken the role of finalizing this initiative. The changes made due to the spill include the following:

- In addition to the required monthly inspection by the assigned inspector, the regional engineer must perform an annual inspection of each impoundment in that region.
- During the permitting phase, engineers are dedicated to reviewing impoundments only.
- A different engineer reviews the impoundment a second time.

There is currently an initiative in this state involving both historical and active underground maps. This initiative proposed changes to be made to Kentucky law regarding accessibility of mine maps. During the 2002 legislative session, a law was successfully modified to permit public assess to closed or abandoned mine maps held by the Kentucky Department of Mines and Minerals (KDMM). Senate Bill 165, passed in 2002, allowed the public access to KDMM's active mine maps as well. OSM and DSMRE have dedicated $160,000 in matching funds for the scanning of maps and creation of a Web site that would allow quick public access to maps. The web site is being developed and should be available this fall.

Questions and Answers

Q. How many impoundment applications do you have now?
A. There are 30 applications in-house for existing impoundments and 3 new ones.

Q. Is any alternate disposal technology being done?
A. Combined slurry cells, underground injection and individual slurry cells are being used in Kentucky.

Q. How many impoundments are out there?
A. 118 – 7 are fresh water

Q. When you talked about the maps not being accurate, who provided the maps before this impoundment was put in?

A. When I was talking about mapping I was talking about the plan that was provided to us at the time of the permit application. In this case there was an engineering plan depicting there was 120 feet of solid. When the failure occurred, we went out and did core drilling and we found voids.

Q. Why wasn't that discovered when you were reviewing that?
A. We don't go underground and go from point A to point B and tie it in. We ask the questions and they give us the answers. I don't think there was any one trying to mislead any one. I think it was just a mistake.

Q. So the engineers are saying that the 120 feet barrier was an honest mistake? Would that have been concluded based on the permit?
A. In the permit process all the emphasis that I have seen has been on the dam.
Yes, one of the things we look at during the review process is the dam's stability. What we have incorporated since the Martin County spill is breakthrough potential. That's what we are talking about when we look at what is below it, where the voids are. We are much more aware of that because of this spill. In the '70s the emphasis was on the embankments. We still look at the stability of the embankments. We are looking at the stability of the embankments and the impacts downstream. We have just doubled our efforts to look at the breakthrough potential also.

Q. When they have violations, do they have to let you know?
A. There is in our regulation condition in the programs. If you are a coal company and you receive 3 violations that are the same type of violations in 12 months you are automatically put on notice. It is a Show-cause development. You must come to us and tell us why we should not revoke your permit.

Q. They had a history of violations. Why wasn't something done?
A. A 1994 violation would not have caused that great of a concern. We were aware that the 1994 spill had happened but that would not have anything to do with an assessment in 2000.

Q. This is a public health concern, why weren't they invited?
A. EQC intended this to be a status report on the spill cleanup. If there is enough interest we can schedule health on the agenda at a future meeting.

Q. How many permits for impoundments have been denied?
A. Not sure, but we did deny one last week. Right now we have 30 in-house and 3 new ones.

Q. What about alternatives to impoundments, are you seeing these increase?
A. DSMRE prefers smaller slurry cells. It is difficult to get new slurry pond permit issued. As such, most of these impoundments are being amended to add more acreage to them.

Q. Who reimbursed water companies for all the problems they had?
A. The coal company did monitoring and helped with water supplies. Not sure what financial matters were addressed.

Q. How many impoundments have been permitted since MCC spill?
A. Not sure. Will assess and get back to you. There are 30 currently awaiting action.

Q. Do you know how many have been closed due to violations?
A. Can get that for you.

Q. What is the status of the Martin Coal impoundment? Is it closed?

A. The violations have been resolved and the site is being reclaimed. The permit is still active until the impoundment is reclaimed.

Q. There is a list of 14 more accidents since the MCC accident due to mapping problems. These would have been found if core drilling were required. Does DSMRE have the power to require core drilling to be sure there are no abandoned mines near?
A. Not sure about these numbers and where they came from.

Q. How many of the existing slurry ponds are classified as High Hazard?
A. That's just how they were ranked. It does not mean that they are a hazard to break-through. When you are talking about high hazard and moderate, it is the potential--high hazard is loss of property and loss of life, moderate hazard is significant property damage or economic loss.

Q. What is Martin County doing with their slurry? Are they still mining there?
A. Yes, they are still mining. They are using alternatives. Slurry cells being used.

EQC Discussion and Recommendations

After additional general discussion the Commission developed the following recommendations be sent to the U.S. EPA Region 4 in regard to the Martin County Coal slurry spill:

- A public advisory committee be established (composed of citizen, academic, environmental, local and state officials – both statewide and local interests) to allow for meaningful discussion and input on the restoration plan and activities.
- Quarterly newsletters or fact sheets be prepared by the U.S. EPA to update the citizens of Kentucky on key restoration activities, timelines, water quality and sediment sampling and results, and other issues pertinent to the site.
- At least one public meeting be held every 8 to 12 months to provide a status report on cleanup activities.
- An EPA Web site be created with access to reports and other information pertaining to the site.
- A contact person at the EPA be identified to allow the public to email or telephone, toll free, questions concerning the site.

Given, that the Martin County Coal slurry spill was the largest blackwater spill in the history of the Southeastern United States with more than 100 miles of waterways impacted, it only makes sense that the public wants to be involved and remain informed about the status of the cleanup. This was a major spill and the public has a right to know the status of the cleanup. The commission urges the U.S. EPA to move forward with this request. The commission would also like to encourage EPA and Massey Energy to provide funding to the public advisory committee through a Technical Assistance Grant or through other means to assist the committee interpret documents and conduct independent water quality sampling and testing. The commission asked Director Cole to draft a letter to EPA with these recommendations for consideration at the next EQC meeting.

Ms. Dorton thanked the audience for their attendance and discussion and thanked the panel members for coming.

Other Business
Gary Revlett made the motion to approve the minutes of the EQC May 8th meeting and Lindell Ormsbee seconded the motion. The minutes were approved.

The date of the next meeting is set for July 17 in Frankfort.

With no further business, the meeting adjourned at 9:30 p.m.

July 17 EQC Tour of Martin County Slurry Spill
The Martin County Coal Corporation hosted a tour of the impoundment and spill site for commission members and EQC staff. In addition to Martin County Coal employees, also joining EQC were Tom Welborn, U.S. EPA; Allen Luttrell, DSMRE; Franklin Strunk and Thomas Meredith, MSHA.

Commissioners and staff first were issued safety cards and safety equipment. The commissioners were shown a film about the spill and then were transported by coal officials to view several areas including a slurry cell, the closed 72-acre impoundment, the underground mine portal, the Clearwater Creek and Wolf Creek watersheds. The tour began at 8 a.m. and ended at 1 p.m.

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signed

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date